

ESJWQC Perspective

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ESJWQC Surface Water Quality Monitoring Program Review

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Six Questions

- 1. Are receiving waters to which irrigated lands discharge meeting applicable water quality objectives and Basin Plan provisions?
- 2. Are irrigated agricultural operations causing or contributing to identified water quality problems? If so, what are the specific factors or practices causing or contributing to the identified problems?
- 3. Are water quality conditions changing over time (e.g., degrading or improving as new management practices are implemented)?
- 4. Are irrigated agricultural operations of Members in compliance with the provisions of the Order?
- 5. Are implemented management practices effective in meeting applicable receiving water limitations?
- 6. Are the applicable surface water quality management plans effective in addressing identified water quality problems?

Current ESJWQC Monitoring Program



Representative monitoring



Management Plan monitoring



TMDL (BPA) compliance monitoring



Special studies

Coalition's goal is to eliminate discharges that impair water quality

- Farmers want good water quality

Representative monitoring discovers impaired water quality

- Management plans are triggered albeit at a low rate

All members in a watershed are potential sources

- Coalition representatives review farming operations during one on one meetings

Additional monitoring is not needed

- More monitoring does not improve water quality

Program Evolution



2004–2008

Expanding monitoring program
with fixed list of constituents



2006–2012

Different approaches to identify
sources



2012 – present

Representative monitoring
program

- Management Plan monitoring
- Customized constituent list

Upstream / Downstream

Goal

- Identify source(s) of exceedances

Results

- Sometimes exceedance upstream, but not downstream
- And vice versa
- Did not identify source(s)

Follow-up Monitoring

Goal

- Determine if exceedance is “persistent”

Results

- Sometimes exceedance occurred again, sometimes not
- Unable to determine “persistence” since water is flowing
- Conditions are not the same, even one week later

Core / Assessment

Goal

- Monitor all locations for all constituents on a rotating basis; attempt to be cost effective

Results

- Identified some exceedances but still very costly relative to effectiveness
- Spent time and money monitoring for many constituents that were never detected
- “Skipping” a year was not best approach for identifying exceedances

Other Approaches Suggested



Passive and Active Samplers



Member and citizen monitoring



Edge of field monitoring

Monitoring Design Constraints

Technical issues are insurmountable

- Concentration
- Preservation/hold times
- Discharge pathway

Reliability and data quality

- Safety
- Liability

Cost

- Analytical
- Personnel

Reasons approaches do not work

Passive & Active Samplers

- Technical Issues – concentration and preservation

Citizen / Member Monitoring

- Reliability and liability

Edge of Field Monitoring

- Cost and discharge pathway

Conclusions



Coalition tried and rejected several different monitoring schemes because they did not provide answers to the six questions



Coalition rejected the automated sampling methods because they do not meet the requirements of the Order



The representative monitoring program is the only proven method that addresses the six questions in a cost-effective way